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# NATIONAL ENERGY BOARD REASONS FOR DECISION

In the Matter of an Application pursuant  
to Subcondition 2(2) of Certificate of Public  
Convenience and Necessity No. GC - 65

by



TransCanada PipeLines Limited

January 1982



NATIONAL ENERGY BOARD  
REASONS FOR DECISION

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NATIONAL ENERGY BOARD

IN THE MATTER OF the National Energy Board Act  
and the Regulations made thereunder;

AND IN THE MATTER OF an application made by  
TransCanada PipeLines Limited, pursuant to  
Subcondition 2(2) of Certificate of Public  
Convenience and Necessity No. GC-65, for  
approval of a deviation of the portion of the  
mainline between Trois-Rivières and Quebec City  
in the Province of Quebec, filed with the Board  
under File No.: 1555-T1-83.

HEARD AT Quebec City, Quebec on 9 and 10 November 1981.

BEFORE:

J. Farmer	)	Presiding Member
J.R. Jenkins	)	Member
A.B. Gilmour	)	Member

APPEARANCES:

Robert Turgeon	)	TransCanada PipeLines Limited
Terry Dagleish	)	
Yvon Brisson	)	Gaz Inter-Cité Québec Inc.
Jean Giroux	)	Le Procureur Général du Québec
Richard Makuch	)	National Energy Board

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ABBREVIATIONS

"CPTA"	- Commission de Protection du Territoire Agricole
"the Board"	- National Energy Board
"Québec"	- Procureur Général du Québec
"SOQUIP"	- Société québécoise d'initiatives pétrolières
"TransCanada" "TCPL" or "the Applicant"	- TransCanada PipeLines Limited
"TQM"	- Trans Québec & Maritimes Pipeline Inc.
"UPA"	- Union des Producteurs Agricoles du Québec
GC-65	- Certificate of Public Convenience and Necessity GC-65
April 1980 Reasons for Decision	- Reasons for Decision in the Matter of the Applications by TransCanada PipeLines Limited and Q&M Pipe Lines Ltd. under Part III of the National Energy Board Act - National Energy Board - April 1980
kPa	- kilopascal
m	- metre
km	- kilometre
mm	- millimetre

PREFACE

These are the reasons for the Board's decision in the matter of an application made by TransCanada PipeLines Limited for approval of a modification of the route previously authorized for the extension of a natural-gas pipeline between Trois-Rivières and Quebec City in the Province of Quebec and the portion of the line between Yamachiche and Trois-Rivières also in the Province of Quebec. The decision was rendered by the Board at the conclusion of the hearing on 10 November 1981 in Quebec City, and is attached hereto as Appendix "1".

## CHAPTER 1

### THE APPLICATION AND BACKGROUND

On 16 May 1980, the National Energy Board issued Certificate of Public Convenience and Necessity No. GC-65 to TransCanada PipeLines Limited authorizing the construction and operation of natural-gas pipeline facilities from Boisbriand Junction to Lévis/Lauzon in the Province of Quebec. Conditions 2 and 6 of that Certificate provide as follows:

"2. (1) TransCanada shall cause the additional pipeline in respect of which this certificate is issued, to be... located... in accordance with those specifications, drawings and other information or data set forth in the application as amended, or as approved by the Board, unless varied in accordance with subcondition (2) hereof, and those that are otherwise filed with the Board.

(2) TransCanada shall cause no variation in the specifications, drawings, other design data and requirements described in sub-condition (1) hereof to be made without prior approval of the Board."

"6. Prior to the commencement of the construction of the additional pipeline, TransCanada shall submit for approval, reports containing the following information:

(i) an evaluation of the practicality of following existing transportation corridors to minimize the effect of the pipeline construction activities on agricultural land and sugarbush lots, and a description of any constraints which would preclude this; and..."

In its April 1980 Reasons for Decision with respect to GC-65, the Board recognized the importance of local concerns with respect to the route of the pipeline facilities being authorized. Condition 6 of GC-65 directed TransCanada to undertake further studies and discussions to accommodate those concerns.

As a result of the concerns of groups within the Province of Quebec, TransCanada conducted intensive discussions with various Quebec bodies interested in agriculture, environment and land use along the pipeline route to Quebec City. Those involved in the discussions included TransCanada, Union des Producteurs Agricoles du Québec and the Inter-ministerial Committee of the Province of Quebec. The Inter-ministerial Committee was composed of the following ministries: Energy, Transport, Municipal Affairs, Agriculture, Environment, Industry and Commerce, Leisure, Hunting and Fishing, and Land Use.

The prime considerations that arose from those discussions with respect to the location of the pipeline facilities were, first, the desire to minimize the impact on prime agricultural lands in the Province of Quebec, and, secondly, the possibility of paralleling existing utility corridors for the building of the pipeline facilities.

Following those consultations, TransCanada filed with the Board an application dated 8 September 1981, pursuant to subcondition 2(2) of Certificate No. GC-65, for approval of a modification and relocation of a portion of the previously authorized route for the mainline between Trois-Rivières and Quebec City. By Order No. MH-3-81, the Board set down TransCanada's application for public hearing at Quebec City, commencing on 9 November 1981.

TransCanada stated that its application before the Board, was for the deviation of the mainline route only, and indicated that approval would be sought at a later date for changes in the location of the laterals and the St. Lawrence River crossing at Quebec City.

With respect to the mainline route between Trois-Rivières and Quebec City, TransCanada requested approval of a north shore route. Concurrent with that, TransCanada requested that approval also be given to the northern alternative from Yamachiche to Trois-Rivières which was the subject matter of a public hearing held in Trois-Rivières in June 1981.

## CHAPTER 2

### EVIDENCE

#### 2.1 Routing

The mainline route authorized by the Board pursuant to Certificate No. GC-65 between Trois-Rivières and Quebec City commenced at a point identified on the map, Appendix 2 to this Report, as point A and proceeded to point H, crossed the St. Lawrence River to point I, proceeded to point G, recrossed the St. Lawrence River to point F<sup>1</sup>, and continued to its terminus at point e.

The proposed mainline route modification between Yamachiche and Trois-Rivières is from point A to point B. The proposed mainline route modification between Trois-Rivières and Quebec City begins at point B, and continues through points C, D, and E to its terminus at point f.

In determining the original south shore route of the pipeline facilities between Trois-Rivières and Quebec City, TransCanada had attempted, as much as possible, to utilize agricultural land. Agricultural land is normally a favourable location in which to install a gas pipeline because construction can often be carried out with fewer difficulties and at a lower cost than through more rugged landscapes. In addition, although the cultivated land is disturbed during construction activity, it is possible to restore it to normal or near-normal productivity once the pipeline is operational.

The use of agricultural land for anything but agricultural purposes, however, has been a matter of increasing concern in the Province of Quebec during the past decade. That concern stems, in part, from the fact that it has been estimated that less than 2 percent of the land area of Quebec can be used for agriculture, with the St. Lawrence basin containing the majority of those agricultural lands. To deal with the problem of encroachment upon agricultural land, the Province of Quebec, in 1978, enacted Bill 90, "An Act to Preserve Agricultural Land".

As a result of the concerns expressed by the Board in its April 1980 Reasons for Decision, and by groups within the Province of Quebec, TransCanada found it necessary to consider new criteria for pipeline routing. The Applicant indicated that the proposed revised route corridor between Trois-Rivières and Quebec City was established in an attempt to lessen the adverse impact on agricultural lands and use existing utility corridors for the pipeline.

Those objectives were pursued by locating the pipeline right-of-way parallel to existing road and utility corridors, and by following the lot lines of agricultural fields. In attempting to avoid agricultural lands, it was necessary to locate the revised route in an increased number of timber, swamp and urban areas. The Applicant indicated that the crossing of those areas also presents unique difficulties for pipeline construction.

TransCanada requested approval of a 200-metre corridor for the location of the pipeline facilities, indicating that the matter had been discussed with the UPA and that the CPTA had given approval for the proposed 200-metre wide corridor on 5 August 1981. The intent was to permit TransCanada to carry out further assessments, surveys, and geotechnical studies so it could then identify the final route within the 200-meter wide corridor.

The Applicant also stated that the specific location of the 23-metre right-of-way had been identified and had received verbal approval of the CPTA but might be subject to minor deviations for technical reasons.

The Company stated that it had contacted thirteen of the twenty-three municipalities along the pipeline route to discuss their concerns with or objections to the proposed route modification. On cross examination, TransCanada testified that it had not contacted the remaining ten municipalities as construction in those areas was not planned before the summer of 1982, but that it was the Company's intention to contact those municipalities prior to construction.

TransCanada also stated that it had contacted all the landowners within the 23-metre corridor regarding the location of the pipeline facilities. TransCanada indicated that it had prepared a preliminary line list of the properties within the 23-metre right-of-way and undertook to file it with the Board.

TransCanada studied a total of five possible routes for the mainline between Trois-Rivières and Quebec City including the certificated route. Four of these alternatives were located on the south shore of the St. Lawrence River. The fifth alternative, the proposed route, was located on the north shore.

The proposed north shore route would run generally parallel to the Autoroute 40 right-of-way, except for a section between Ste-Anne-de-la-Pérade and Deschambault Station where the pipeline would be located adjacent to a Canadian Pacific rail line. The first 35 kilometres of the section paralleling the autoroute would traverse extensive areas of wet and in some cases swampy terrain.

According to the Applicant, an assessment of construction considerations and direct capital costs indicated that the north shore route alternative was the best.

TransCanada indicated that it still proposed to provide gas delivery to the Bécancour and Nicolet area. If the north shore route were approved, that delivery could be made by one of the following options:

- (a) the construction of a lateral with an underwater crossing of the St. Lawrence, connected to the mainline near Trois-Rivières;
- (b) the construction of a low pressure lateral (less than 2410 kPa) suspended from the Laviolette bridge at Trois-Rivières;
- (c) the construction of a sub-lateral running northwest from Victoriaville; or

(d) the construction of a sub-lateral running north from a point some 20 kilometres west of Victoriaville.

TransCanada indicated that its current preferred option to serve the Nicolet/Bécancour area was the low pressure lateral line suspended from the Laviolette bridge. Options (a) and (b) would have the least impact on agriculture, but option (b) would be less expensive than option (a) by \$1.6 million (1981 base, direct cost only).

## 2.2 Markets

The Applicant stated that the proposed route would serve all intermediate markets that would have been served by the certificated route, namely Trois-Rivières, Shawinigan, Grand'Mère, Donnacona and Quebec City on the north shore, and Nicolet and Bécancour on the south shore.

In addition, Portneuf and Ste-Anne-de-la-Pérade could now be served by the north shore route.

A lateral to connect the St-Flavien gas supply on the south shore was approved by the Board under Certificate GC-65. TransCanada indicated that it believed that the reserves at St-Flavien were not sufficient to offset the considerations favouring a north shore route. TransCanada stated that the Province of Quebec also held this view. TransCanada also pointed out that SOQUIP was currently delivering the St-Flavien natural gas by truck to an industrial customer near Quebec City at a rate of 34,000 cubic metres per day. TransCanada stated it had no plans to connect SOQUIP's St-Flavien gas field at this time.

### 2.3 Construction

TransCanada stated that the proposed route could be built utilizing conventional construction techniques; however, winter construction might be required owing to frequent occurrences of peat or high water-tables in clay overlain by sand for a distance of approximately 35 km east of the St-Maurice River.

The 134.5 km proposed mainline would be 10.3 km longer than the certificated mainline portion of the route, but would avoid an expensive mainline crossing of the St. Lawrence River near Trois-Rivières. Furthermore, the total length of laterals (excluding lateral portions common to both routes) would be reduced from 38.5 km to 27.1 km, based upon TransCanada's current preferred option for serving the Nicolet and the Bécancour areas. The diameter of the pipe at the St. Lawrence River crossing at Quebec City to Lévis-Lauzon, however, would be increased from 406.4 mm to 457 mm.

The proposed north shore route would require five intermediate river crossings by the 610 mm pipe, whereas the certificated route would entail only one.

TransCanada indicated that it intended to provide gas delivery to the Quebec City market area in the spring of 1983.

### 2.4 Costs

TransCanada estimated the capital cost of the mainline facilities along the north shore route between Yamachiche and St-Augustin to be \$49.7 million (1981 base, direct cost only).

TransCanada provided a capital cost comparison between the certificated route and the proposed north shore route. In this comparison the two crossings of the St. Lawrence River and some

lateral facilities necessary to provide natural gas to the Nicolet/Bécancour area and to Donnacona were included. The overall capital cost of the proposed north shore route (including the St. Lawrence River crossing and the laterals) was estimated to be \$71.4 million (1981 base, direct cost only), that is, \$6.9 million less than the former route. Details of this capital cost comparison are presented in Appendix 3.

TransCanada did not anticipate that operation and maintenance costs would vary significantly between the two routes.

## 2.5 Environment

TransCanada testified that it would implement all the policies, practices and procedures for the protection of agricultural land and the environment which the Company had proposed for the certificated route.

TransCanada testified that all areas of agricultural drainage which would be disturbed by pipeline construction had been identified. Where crossing areas are underlain by existing agricultural - drainage systems, TransCanada would be prepared to increase the minimum depth of cover over the pipeline from 1.2 metres to 1.8 metres. The Company would also employ the services of a full-time, agricultural drainage expert to supervise the repair of all existing drainage systems affected by construction. In areas where landowners had plans for future agricultural drainage, TransCanada would lower the proposed pipeline deep enough to avoid disruption of the proposed subsurface drains. On terrain

where the landowner had no plans for subsurface drainage, but where there was the potential for future agricultural drainage systems, the drainage consultant would survey the area to find the low point in elevation. During construction the pipeline would be installed across that area at an appropriate depth to provide adequate cover over the pipe at the lowest spots.

With respect to the five intermediate river crossings, being the St-Maurice, Batiscan, Ste-Anne, Portneuf and Jacques Cartier Rivers, TransCanada confirmed that the Company would implement its general construction procedures. In addition, TransCanada undertook to file with the Board detailed construction drawings and specifications. These drawings and specifications would include site-specific techniques to lessen adverse environmental impacts and to rehabilitate the crossing sites after construction.

CHAPTER 3

DISPOSITION

3.1 The Board has given careful consideration to the evidence before it on right-of-way matters, and notes that TransCanada has contacted all of the landowners affected by the new routing of the pipeline, and that TransCanada will continue to consult with the various municipalities along the route, as well as the UPA and CPTA. The impact on agricultural lands is minimized by paralleling existing utility corridors wherever possible.

3.2 The Board recognizes that all markets intended to be served along the certificated route would equally be served by the proposed north shore route, and that additional markets could be served at Portneuf and Ste-Anne-de-la-Pérade.

The Board is aware that the Province of Quebec believes that the St-Flavien reserves are not sufficient to offset the considerations favouring a north shore route. The Board notes also that the gas from the St-Flavien reserves is currently being transported by truck to an industrial customer at a rate similar to that contemplated at the time of the issuance of Certificate GC-65. The Board concludes that the St-Flavien reserves are not a critical factor in the selection of the pipeline route between Trois-Rivières and Quebec City.

3.3 The Board is also satisfied with the proposed design, and the plans for construction and operation of the pipeline within the modified route.

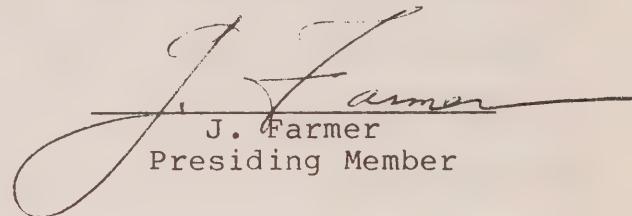
3.4 The Board accepts the evidence submitted by TransCanada on capital costs that indicates that the overall capital cost of the new north shore route between Yamachiche and St-Nicolas would be \$6.9 million less than that of the certificated route. An additional advantage of its new routing is the elimination of one major crossing of the St. Lawrence River. That should enable TransCanada to reach the Quebec City market area at an earlier date.

3.5 The Board recognizes that there would be some impact upon the environment during construction of the pipeline facilities. The Board, however, is satisfied that the measures proposed by TransCanada would minimize that impact. The Board notes that TransCanada would be prepared to put into place adequate rehabilitation techniques in environmentally sensitive areas.

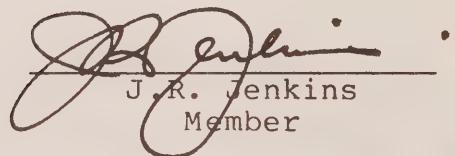
The Board would require TransCanada to file, for Board approval, prior to commencement of construction, the detailed construction drawings and specifications for the five river crossings including the construction techniques and rehabilitation methods to be used.

The Board rendered its decision from the bench in Quebec City on 10 November 1981, which, for the foregoing reasons, approved the north shore route proposed by TransCanada from Trois-Rivières to Quebec City. The Board also approved the

northern alternative of the routing from Yamachiche to Trois-Rivières, the subject of an earlier hearing. The details of that decision are set out in Appendix 1.



J. Farmer  
Presiding Member



J. R. Jenkins  
Member



A. B. Gilmour  
Member

DECISION RENDERED FROM THE BENCH  
AT QUEBEC CITY, 10 NOVEMBER 1981

After having heard the evidence submitted by the Applicant and interested parties to the proceedings, the Board has considered the importance of rendering a decision as soon as possible in respect of the present application by TransCanada PipeLines pursuant to Certificate of Public Convenience and Necessity No. GC-65.

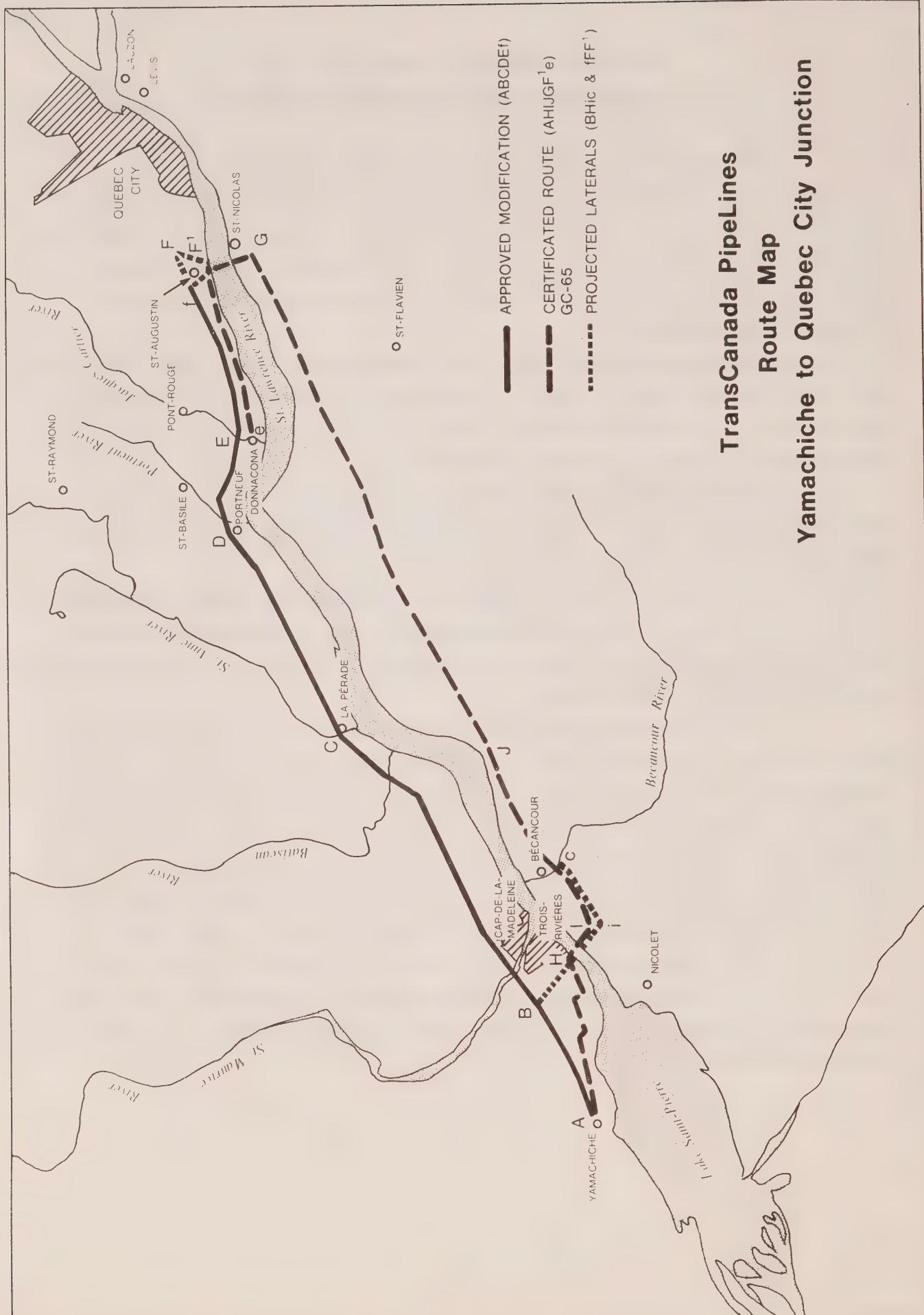
The Board recognizes the importance of an early decision and has decided that it is in the public interest to approve the application by TransCanada to modify and relocate the route of its mainline facilities between Trois-Rivières and Quebec City.

Specifically, the Board approves the route shown on cadastral plans filed as Exhibit 12 and on site plans filed as Exhibit 13 during this hearing.

The authorization applies to the route shown on Drawing 1-1 of the application by TransCanada which commences at Trois-Rivières, point B, continues via points C, D and E, and terminates at point f near Quebec City.

As a result of the foregoing decision, the Board is now in a position to decide that it is equally in the public interest to approve the application by TransCanada PipeLines to relocate the route of its mainline facilities between Yamachiche and Trois-Rivières. The relocation of this portion of the mainline facilities was the subject of a public hearing held during June 1981 in Trois-Rivières pursuant to Board Order No. MH-2-81.

The route approved for this relocation is also shown on Drawing 1-1 of the present application by TransCanada. The route commences at point A, near Yamachiche and terminates at point B, at Trois-Rivières.



TRANSCANADA  
 COMPARISON OF DIRECT CAPITAL COST<sup>(1)</sup>  
CERTIFICATE ROUTE VS PROPOSED NORTH SHORE ROUTE  
 (millions of 1981 dollars)

	<u>Certificated Route</u> <sup>(2)</sup>	<u>Proposed Route</u> <sup>(3)</sup>
<u>Land Portion Costs</u>		
Land	4.6	3.1
Material	16.6	16.7
Construction	27.3	29.7
Engineering	<u>3.7</u>	<u>3.7</u>
Sub-total	52.3 <sup>(4)</sup>	53.2
<u>River Crossings</u>		
	<u>26.0</u>	<u>18.2</u>
Total	78.3	71.4

## NOTES:

1. Taken from Application, Section 7.0, Table 7.1
2. Shown in Appendix 2 as A-H-I-J-G-F<sup>1</sup>-e
3. Shown in Appendix 2 as A-B-C-D-E-f-G and B-H-i-c  
 For comparison purposes, the figures above assume service to the Nicolet/Bécancour area via a low-pressure lateral suspended on the Laviolette bridge, and a crossing of the St. Lawrence River at Quebec City to St-Nicolas
4. Inaccuracies in totals result from rounding-off.





